

**Kymeta Corporation  
Application for Experimental License**

**Narrative Statement**

**(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.**

Bernd Friedrich  
Kymeta Corporation  
12277 134<sup>th</sup> Court NE, Suite 100  
Redmond, Washington 98052  
Phone: 425-896-3703  
Mobile: 703-340-5791  
E-mail: [bfriedrich@kymetacorp.com](mailto:bfriedrich@kymetacorp.com)

Copy to:

Robert S. Koppel, Esq.  
Lukas Nace Gutierrez & Sachs LLP  
8300 Greensboro Drive, Suite 1200  
McLean, VA 22102  
Phone: 703-584-8669  
E-mail: [bkoppel@fcclaw.com](mailto:bkoppel@fcclaw.com)

**(2) Description of why experimental authorization is needed.**

Kymeta is developing a microwave antenna technology that could significantly improve performance and lower costs in commercial deployments. Grant of the authorization will allow Kymeta to test and demonstrate its technology with the Intelsat geostationary satellite system.

**(3) Description of the operation to be conducted and its purpose.**

Kymeta will test and demonstrate its antenna technology from fixed locations in the United States. Kymeta requests authority to operate up to 20 units with any Ku-band satellite owned or operated by Intelsat that is authorized to operate in the United States. The purpose of the testing is to refine the ability of the assembled RF technology to both transmit and receive a Ku-band digitally modulated transmission. The purpose of the demonstrations is to show the technology to prospective partners and customers.

Intelsat Ku-band satellites (points of communication)

Intelsat satellites with CONUS Ku-band coverage:

- Horizons 1 at 127° W      S2475
- Galaxy 18 at 123° W      S2733
- Galaxy 16 at 99° W      S2687
- Galaxy 19 at 97° W      S2647

- Galaxy 3C at 95.05° W S2381
- Galaxy 25 at 93.10° W S2154
- Galaxy 17 at 91° W S2715
- Galaxy 28 at 89° W S2160
- Intelsat 29e at 310° E (To be deployed) S2913
- Intelsat 9 at 316.9° E (Inclined Orbit Operation) S2380
- Intelsat 32e at 316.9° E (To be deployed) S2922

The parameters are identical for transmission to all of the Intelsat satellites.

**(4) Time and dates of proposed operation.**

Kymeta requests an experimental license for a period of 3 years commencing August 15, 2015 and ending August 15, 2018. Kymeta will notify the other Ku-band operators authorized to provide service to the U.S., at least one week prior to any transmit testing, as applicable, and provide emergency contact information. In the event that interference is reported, Kymeta will immediately cease transmissions.

**(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).**

The transmitting station will operate in fixed mode.

**(6) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.**

United States

**(7) Transmit equipment to be used, including name of manufacturer, model and number of units.**

Kymeta mTenna™ technology experimental Ku-band antenna

**(8) Frequencies desired.**

Transmit: 13.75 – 14.00 GHz; 14.00 – 14.50 GHz

Receive: 10.95 – 11.70 GHz; 11.70 – 12.20 GHz; 12.20 – 12.75 GHz

Although communications will be in both directions, the application for an experimental license does not seek authorization to receive in the space-to-earth downlink bands. The Intelsat satellites are licensed pursuant to Part 25 of the Commission's rules, and no further authorization is required for receive operations by earth terminals.

**(9) Maximum output power and maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).**

10 W output power; 45 dBW EIRP; 42.85 dBW (40 kW) ERP

**(10) Emission designator (see §2.201 of this chapter) or describe emission (bandwidth, modulation, etc.)**

Transmit: 100KG7W to 50M0G7W  
Enter as G 7 W

**(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, see part 17 of this Chapter concerning notification to the FAA).**

The overall height of the antenna above ground level (or roof top level) will not exceed 6 meters.

**(12) Additional Technical Information**

Width of beam in degrees at half-power point: 2.50.  
Satellite coverage: narrow beam.  
Receive antenna gain (maximum): 35 dBi.

The antenna will transmit and receive using circular polarization.  
Frequency tolerance: 0.001%.

Transmit antenna azimuth: Various. The application seeks authority for the earth terminals to operate anywhere in the U.S. Thus, the azimuth will vary.

Elevation of transmit antenna MSL (in meters): Various. It will depend on the location of the earth terminal.

Elevation of transmit antenna AGL (in meters): Various. It will depend on the location of the earth terminal.

Transmit antenna gain (dBi): 35 dBi.

Stop buzzer POC: Bernd Friedrich – see page 1 for contact information.